A NEW ENDEMIC SPECIES OF *MENTZELIA* SECT. BARTONIA (LOASACEAE) FROM NEW MEXICO

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ABSTRACT

Mentzelia conspicua T.K. Todsen, endemic to the Rio Chama basin of New Mexico, is illustrated and described. It is compared to a similar species, *Mentzelia laciniata* (Gray) Darl. The distribution of the two species in Rio Arriba County is shown.

RESUMEN

Se ilustra y se describe *Mentzelia conspicua* T.K. Todsen, endémica de la cuenca del Río Chama en Nuevo México. Se compra con la especie semejante, *Mentzelia laciniata* (Gray) Darl. Se muestra la distribución de las dos especies en el condado de Río Arriba.

KEY WORDS: *Mentzelia*, Loasaceae, New Mexico

Mentzelia conspicua T.K. Todsen, sp. nov. (**Fig. 1**). TYPE: U.S.A. NEW MEXICO. Rio Arriba Co.: W end of El Vado Dam in deep road cut on NM Hwy 112, T28N, R2E, 19 Aug 1991, *Todsen 91-8-11* (HOLOTYPE: NMC; ISOTYPE: LA).

Mentzeliae laciniatae (Rydb.) Darl. Similis sed differt. Differentiae sunt: staminum nonpetaloideum; lobos foliorum oppositos; staminum longitudine variante, verticillum intimum 7–10mm, verticillum extimum 25–30mm; paginae superae foliorum virides cum pilis dispersis.

Erect, strict, herbaceous perennial to 60 cm tall, pubescent with small retrorsely barbed hairs and long barbed hairs with tips acute and bases surrounded by support cells. Rosette leaves and cauline leaves pinnately lobed, rachis 2–3 mm wide, lobes usually opposite, 6–15 mm long, 2–3 mm wide, lower surfaces pubescent with stout curved, pointed hairs and fewer, smaller retrorsely barbed hairs, upper surfaces sparsely pubescent with few scattered pointed hairs. Bracts linear, usually entire but occasionally with 2 narrow lobes at base. Flowers opening late afternoon. Calyx lobes 5, 8–12 mm long, deltoid, acuminate, calyx tube 1.5–2 cm long; petals 10, in two whorls, the inner whorl of 5 petaloid staminodes, ovate to lanceolate, golden yellow, glabrous, outer whorl 25–40 mm long, 8–11 mm wide, inner whorl 22–35 mm long, 7–10 mm wide. Fertile stamens numerous, filaments all filiform, outermost whorl filaments 20–27 long, innermost 7–10 mm long, anthers 1 mm long; pistil 1; style 1, 24–32 mm long; stigma 1.5 mm long, at anthesis 9–12 mm above the anthers. Capsule cylindrical, 15–22 mm long, topped by persistent calyx lobes. Seeds lenticular, dark gray to black

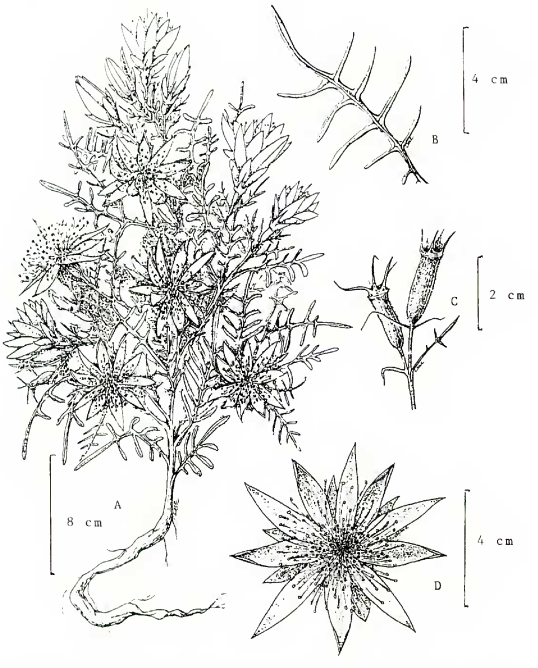

FIG. 1. *Mentzelia conspicua* (*Todsen 91-8-5*). A. Plant. B. Leaf. C. Capsule. D. Flower.

when mature, 2–2.8 mm long, wing narrow, to 0.1 mm wide. Chromosome number n=10. Self compatible.

Distribution and ecology.—In the upper Rio Chama drainage of Rio Arriba County, New Mexico (Fig. 2), 1800–2250 m, on road cuts and steep barren hillsides of gray to red shales and clays of the Mancos and Chinle formations; flowering July to early October.

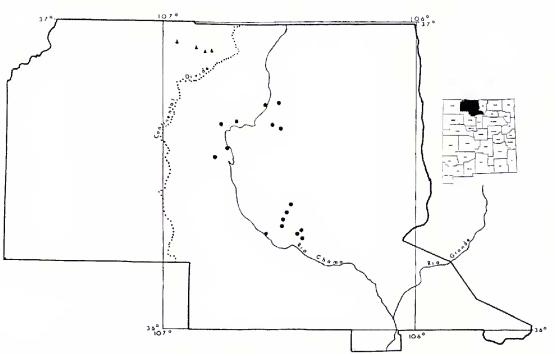

FIG. 2. Distribution of *Mentzelia conspicua* (circles) and *M. laciniata* (triangles) in Rio Arriba County, New Mexico.

Additional specimens: U.S.A. **NEW MEXICO. Rio Arriba Co.:** 8 mi S of Canjilon, 24 Jul 1928, *Wolf 2908* (CAS, CH, RSA); El Vado Dam, the Point, 22 Jul 1949, *Castetter and Dittmer 6559* (UNM); El Vado Dam, 22 Jul 1949, *Castetter and Dittmer 6565* (UNM); 22 mi S of Tierra Amarilla, 1954, *Waterfall 11126* (BRIT, COLO); 2.2 mi S of Ghost Ranch Museum, 21 Aug 1964, chromosome voucher n=10, *Atsatt 517* (LA); US84, 3.1 mi S of N turnoff to Canjilon, 21 Aug 1964, chormosome voucher n=10, *Atsatt 518* (LA, US); US 84, 2.4 mi S of Ghost Ranch Museum, fine red soil, 17 Sep 1968, *Thompson 3558* (LA); US64, 6 mi E of Tierra Amarilla, 30 Aug 1974, *Todsen s.n.* (NMC); Echo Amphitheater Campground,, 19 Aug 1991, *Todsen 91-8-1* (LA, NMC); US 84 1 mi S of entrance to Ghost Ranch, 19 Aug 1991, *Todsen 91-8-2* (LA, NMC, NY); US84, 4.3 mi S of jct. with US 64E, *Todsen 91-8-3* (NMC, LA, NY); US84, 9 mi S of Cebolla, 19 Aug 1991, *Todsen 91-8-4* (NMC); NM 95, just W of Rio Chama bridge, 19 Aug 1991, *Todsen 91-8-5* (LA, NMC, NY); NM 95, Heron Lake Park Visitor Center, 19 Aug 1991, *Todsen 91-8-6* (NMC); Ghost Ranch, Kitchen Mesa Trail, 8 Jul 1994, *Sivinsky and Lowery 2768* (NMC, UNM); NM 112, 5 mi W of El Vado Dam, 18 Aug 1994, *Todsen 94-8-3* (NMC); NM312, 3 mi E of US84, 18 Aug 1994, *Todsen 94-8-4* (NMC); NM95, NW end of El Vado Lake, 18 Aug 1994, *Todsen 94-8-5* (NMC); Forest Road 151, S of Big Eddy Pullout, Chama River Canyon Wilderness, 6 Oct 1997, *Todsen 97-10-1* (NMC). **Torrance Co.:** 16 mi E of Clines Corners, 17 Aug 1968, *Waterfall 15166* (BRIT, OSU, RSA).

Thirty-plus years ago, H.J. Thompson (personal communication) noted that *Mentzelia* specimens collected from the upper Rio Chama drainage differed from typical *Mentzelia laciniata* as described by Darlington (Darlington 1934), particularly in the presence of variable stamen lengths. He stated that the only other *Mentzelia* showing this characteristic was *M. crocea* Kellogg (=

M. lindleyi Torr. & Gray), so far as he knew. He later distributed a tentative description of what he called *M. conspicua*, but never published it.

Since all the earlier collections of *Mentzelia* from the upper Rio Chama basin were identified as *M. laciniata*, the differences between the latter species and *M. conspicua* are emphasized. For *M. conspicua*, 1) leaf lobes are usually opposite vs. usually alternate; 2) upper leaf surfaces and capsules have scattered pubescence vs. dense pubescence; 3) petaloid stamen filaments are absent vs. present; 4) stamen lengths for an individual flower are variable (7–22 mm) vs about three-fourths the length of the petals. Other more subjective differences are that *M. conspicua* plants are stouter and taller and the flowers are much larger (6–9 cm vs 3.5–4.5 cm).

There was an anomalous collection of *M. conspicua* from 16 mi E of Clines Corners in Torrance County (*Waterfall 15166*) 160 km SE of the nearest Rio Chama site. I have examined the specimens at BRIT and RSA and have a photocopy of the specimen at OSU and they are indeed *M. conspicua*. Attsatt, Thompson and I have independently searched the stated location and have found neither specimens nor characteristic habitat. The original site was along US Highway 66, which was completely redone to form Interstate Highway 40. It may be that the location was extirpated by that construction.

ACKNOWLEDGMENTS

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